CLAIMS:

1. A method of removing organic materials from a substrate comprising contacting the substrate with a solution of ozone, water, and a surfactant.

2. The method of Claim 1, wherein contacting the substrate comprises contacting a layer of an organic photoresist material overlying a major surface of the substrate.

3. The method of Claim 2, wherein the substrate comprises a semiconductor wafer.

4. The method of Claim 1, wherein the surfactant comprises a non-ionic material.

5. The method of Claim 1, wherein the surfactant comprises a nonionic material selected from the group consisting of an ethoxylated sorbitan monooleate, and functional equivalents an ethoxylated sorbitan monooleate.

6. The method of Claim 1, wherein the surfactant comprises a surfactant selected from the group consisting of Surfynol 440, Surfynol CT-141 and a quaternary ammonium chloride material.

7. The method of Claim 1, wherein contacting the substrate further comprises maintaining the solution at a temperature between approximately 20 degrees Celsius (° C) and approximately 95° C.

8. The method of Claim 7, wherein contacting the substrate further comprises maintaining the solution at a temperature between approximately 65° C and approximately 95° C.

9. The method of Claim 7, wherein contacting the substrate further comprises maintaining the solution at a temperature between approximately 80° C and approximately 95° C.

10. The method of Claim 7, wherein the surfactant comprises a material selected from the group consisting of Surfynol 440, Surfynol CT-141, a quaternary ammonium chloride material and functional equivalents thereof.

11. The method of Claim 7, further comprises providing a process chamber and wherein the contacting is within the process chamber.

12. The method of Claim 11, wherein the contacting comprises providing the solution to the substrate for a first period of time and after the first time, stopping the providing for a second period of time and then sequentially repeating the providing and stopping the providing until essentially all of the organic material is removed.

13. The method of Claim 11, wherein the contacting comprises spraying the substrate with the solution.

14. The method of Claim 11, wherein providing a process chamber further comprises providing an atmosphere comprising a concentration of ozone within the process chamber.

15. The method of Claim 11, wherein providing a process chamber further comprises providing an atmosphere comprising a concentration of ozone within the process chamber, the atmosphere having a pressure in excess of atmospheric pressure.

16. The method of Claim 11, wherein the contacting comprises spraying the substrate with the solution within the process chamber, wherein the solution is maintained at a first temperature between approximately 20° C and approximately 95° C, and the chamber is maintained at a second temperature between approximately 20° C and approximately 95° C.

17. The method of Claim 16, wherein the first temperature and second temperature are approximately equal.

18. The method of Claim 16, wherein the first temperature is higher than the second temperature.

19. The method of Claim 18, wherein the first temperature is between approximately 80° C and approximately 95° C.

20. A method for forming a self-limiting oxide layer comprising;

providing a substrate having exposed oxidizable material;

positioning the substrate within a process chamber; and

spraying the substrate in the process chamber with a solution comprising ozone, water and a surfactant effective to form the self-limiting oxide layer on the exposed oxidizable material.

21. The method of Claim 20, wherein forming a self-limiting oxide layer comprises forming a layer less than or equal to 1 nanometer (nm).

22. The method of Claim 20, wherein the surfactant comprises a non-ionic material.

23. The method of Claim 20, wherein the surfactant comprises a non-ionic material selected from the group consisting of Surfynol 440, Surfynol CT-141, a quaternary ammonium chloride material and functional equivalents of Surfynol 440 or Surfynol CT-141.

24. The method of Claim 20, wherein spraying the substrate further comprises maintaining the solution at a first temperature between approximately 20° C and approximately 95° C, and the chamber at a second temperature between approximately 20° C and approximately 95° C.

25. The method of Claim 24, wherein the first temperature and second temperature are approximately equal.

26. The method of Claim 24, wherein the first temperature is higher than the second temperature.

27. The method of Claim 24, wherein the first temperature is maintained between approximately 65° C and approximately 95° C.

28. The method of Claim 24, wherein providing a process chamber further comprises providing an atmosphere comprising a concentration of ozone within the process chamber.

29. The method of Claim 24, wherein providing a process chamber further comprises providing an atmosphere comprising a concentration of ozone within the process chamber, the atmosphere having a pressure in excess of atmospheric pressure.

30. A semiconductor processing method comprising:

removing an organic material from a surface of a semiconductor wafer with a solution of ozone, water and a surfactant; and

oxidizing at least a portion of the surface of the wafer with the solution upon the removing.

31. The method of Claim 30, wherein removing the organic material comprises removing a photoresist material.

32. The method of Claim 30, wherein the surfactant comprises a non-ionic material.

33. The method of Claim 30, wherein the surfactant comprises a non-ionic material selected from the group consisting of an ethoxylated sorbitan monooleate, and functional equivalents of an ethoxylated sorbitan monooleate.

34. The method of Claim 30, wherein the surfactant comprises Surfynol 440.

35. The method of Claim 30, wherein the surfactant comprises a quaternary ammonium chloride material or Surfynol CT-141.

36. A method of forming an oxide layer comprising, contacting a substrate comprising an oxidizable material with a solution of ozone, water and a surfactant, the contacting being effective to oxidize at least a portion of the oxidizable material to form the oxide layer.

37. The method of Claim 36, wherein the oxidizable material comprises silicon or aluminum.

38. The method of Claim 36, wherein the formed oxide layer is less than or equal to 1 nanometer (nm).

39. The method of Claim 36, wherein the surfactant comprises a non-ionic material.

40. The method of Claim 39, wherein the non-ionic material is selected from the group consisting of an ethoxylated sorbitan monooleate, and functional equivalents of an ethoxylated sorbitan monooleate.

41. The method of Claim 39, wherein the surfactant comprises Surfynol 440.

42. The method of Claim 36, wherein the surfactant comprises a quaternary ammonium chloride material or Surfynol CT-141.

43. The method of Claim 36, wherein contacting comprises spraying the solution onto the substrate and/or immersing the substrate into the solution.

44. The method of Claim 43, wherein spraying and/or immersing the substrate further comprises spraying and/or immersing for a first period of time, stopping the spraying and/or immersing for a second period of time, wherein the spraying and/or immersing and the stopping the spraying and/or immersing is sequentially repeated until the oxide layer is formed.

45. The method of Claim 36, further comprising removing one or more organic materials from the substrate prior to forming the layer of silicon oxide.

46. A method for removing organic materials from a semiconductor substrate, comprising:

providing the semiconductor substrate within a process chamber having an atmosphere comprising a concentration of ozone;

spraying the substrate in the process chamber for a first period of time with a solution comprising ozone, water and a surfactant;

stopping the spraying for a second period of time;

after stopping the spraying for the second period of time, spraying the substrate in the process chamber for a third period of with a solution comprising ozone, water and a surfactant; and

sequentially stopping the spraying and spraying the substrate with a solution comprising ozone, water and a surfactant until the organic material is substantially removed.

47. The method of Claim 46, further comprising maintaining the process chamber at a first temperature between approximately 20° C and approximately 95° C.

48. The method of Claim 46, further comprising maintaining the solution at a second temperature between approximately 20° C and approximately 95° C.

49. The method of Claim 46, wherein the second temperature is higher than the first temperature.

50. The method of Claim 46, further comprising maintaining the process chamber at a pressure in excess of atmospheric pressure.

51. The method of Claim 46, wherein the surfactant comprises a non-ionic material.

52. The method of Claim 51, wherein the non-ionic material is selected from the group consisting of an ethoxylated sorbitan monooleate and functional equivalents an ethoxylated sorbitan monooleate.

53. The method of Claim 46, wherein the surfactant comprises Surfynol 440.

54. The method of Claim 46, wherein the surfactant comprises a quaternary ammonium chloride material or Surfynol CT-141.